



SOUTHERN UNIVERSITY – SHREVEPORT, LA

Course Syllabus

BIOLOGY 220 – Lecture and 220L - Laboratory

Lecture: 3 Credit Hours; Lab: 1 Credit Hour

Biology Department

Office Hours – (posted on office door)

Dr. Rossi, Assistant Professor

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Classroom: (215)

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MISSION STATEMENT

Southern University at Shreveport (SUSLA), an autonomous unit of the Southern University System A & M System, seeks to provide a quality education for its students, while being committed to the total community. This Institution awards certificates and associate degrees, prepares students for careers in technical and occupational fields, and offers courses and programs that are transferable to other colleges and universities. Dedicated to excellence in instruction and community service, this open enrollment institution promotes cultural diversity, provides developmental and continuing education, and seeks partnerships with business and industry. The University intends that all individuals should have the opportunity to receive educational experiences and related services, which are compatible with their varied interests, academic abilities, achievements, family backgrounds, motivations, needs, and goals.

Course Description:

220 Lecture -220 Lab – Human Anatomy & Physiology I, three (3) semester credit hours for lecture; and a separate Laboratory worth one (1) credit hour.

The course content is designed to satisfy the requirements for the A.S. degree in Biology, satisfy the requirements for the transfer program in Biology and to satisfy the core curriculum requirements.

Detailed study of the structure and function of the skeletal, muscular, nervous, and sensory systems in the human body. The structure, distribution and functions of tissues are discussed

Tate, Philip, Anatomy and Physiology. Seeley's Principles of Anatomy and Physiology, 1st edition, McGraw Hill

Krieger, Paul A., Anatomy and Physiology Lab Manual. A Visual Analogy Guide to Human Anatomy, 1st edition, Morton Publishing Co.

STUDENT LEARNING OUTCOMES (SLOS):

1. Written and Oral Communication

The graduate from Southern University at Shreveport should be able to:

Demonstrate proficiency in written and oral communication by composing and presenting structured text in a variety of oral and written forms according to purpose, audience, and occasion with implementation of thesis, supporting details, and idea development.

- Write and speak fluently and concisely, applying standard English conventions in grammar, mechanics, usage and punctuation
- Adapt speaking and writing to context, considering opposing viewpoints
- Present ideas coherently and logically without plagiarism
- Employ principles to influence attitudes, beliefs and actions when appropriate
- Summarize, analyze, and interpret oral and written texts, with the ability to identify assumptions and differentiate fact from opinion

2. Critical Thinking and Quantitative Reasoning

The graduate from Southern University at Shreveport should be able to:

Solve problems by interpreting, analyzing, evaluating and applying known information received from statistical and other data, past experience, problem-solving techniques, inference, the scientific method, mathematical equations, graphics, etc., to make decisions, judgments, and predictions, constructing well-supported and sustained arguments to justify conclusions.

- Demonstrate background knowledge of subject sufficient to understand the nature of a problem
- Define a problem verbally or by means of numerical or geometrical representatives of real-world phenomena
- Determine and employ solution techniques appropriate to solve a problem
- Make deduction from consequences
- Formulate alternatives
- Predict outcome
- Verify solution satisfies the requirement of the problem

3. Technological Competency

The graduate from Southern University at Shreveport should be able to:

Effectively utilize various modes and media using technology such as computers, computer software applications, the internet, and other technology to produce documentation, data and graphical presentations appropriate to various academic and professional arenas/venues.

- Create documents using various processing, data management, and spreadsheet technology for written presentations
- Create presentations using PowerPoint technology to accompany oral presentations
- Relay information through data or graphical representation

4. Research and Information Literacy

The graduate from Southern University at Shreveport should be able to:

- Explore scientific and academic topics using specific electronic search engines, i.e. Medline, iLink, OPAC, and LOUIS online databases.
- Research scientific and academic topics utilizing various resources presented in the library, to include but not limited to: books, periodicals, newspapers, microfilm, microfiche, audio and video cassettes, encyclopedias, atlases, and other reference materials, special collection and special services necessary in constructing a thesis/term paper, white paper or other informational document.
- Apply appropriate discipline-specific citation format, i.e. APA/MLA, to document sources used in the research of information.

5. Professional Deportment

The graduate from Southern University at Shreveport should be able to:

Demonstrate professional and ethical behavior as required by discipline-specific codes of conduct and as needed in a diverse and global workforce or in the articulation to a four-year college or university program.

- Model professional and ethical conduct
- Demonstrate responsible behavior and self-directed action
- Accept supervision and work effectively with supervisory personnel
- Habituate promptness
- Display integrity in practices and reporting of information

Course Outline:

I. THE BODY AS A WHOLE

1. Anatomical Position
2. Anatomical Reference Systems
 - A. Directions
 - B. Planes
 - C. Cavities
 - D. Structural Units

II. MICROSCOPIC ANATOMY (HISTOLOGY)

1. Function and Structure of a Typical Cell
2. Embryonic Tissues (Germ Layers)
3. Epithelial Tissue

4. Muscular Tissue
5. Nervous Tissue
6. Connective Tissue

III. INTEGUMENT SYSTEM

1. Epidermis
2. Dermis
3. Appendages of the Integument System

IV. SKELETAL SYSTEM

1. Axial Skeleton
 - A. Skull (cranium, facial bones, auditory ossicles, hyoid)
 - B. Vertebral Column (divisions, vertebrae characteristics)
 - C. Thoracic Skeleton (sternum, clavicle, ribs)
2. Appendicular Skeleton
 - A. Pectoral Girdle
 - B. Upper Extremities
 - C. Pelvic Girdle
 - D. Lower Extremities
3. Bone Classification, Markings and Contours
4. Joints (articulations) and Joint Movements
 - A. Synovial Joints (Diarthroses)
 - B. Movements at Synovial Joints (Synchondrosis)
 - C. Non-Synovial Joints (Synarthroses)
5. Skeletal Functions
 - A. General Functions
 - B. Development and Ossification
 - C. Calcium Metabolism and Storage
 - D. Hematopoiesis
 - E. Muscle Attachment
6. Fractures and Skeletal/Articular Disorders
 - A. Types of Fractures
 - B. Ricketts
 - C. Kyphosis, Lordosis and Scoliosis
 - D. Osteoporosis and Osteomalacia
 - E. Arthritis
 - F. Bursitis

V. MUSCULAR SYSTEM

1. General Functions
2. Review of Muscle Types (smooth, cardiac, skeletal)
3. Physiology of Muscle Contraction
 - A. Anatomical Consideration
 1. Myoneural Junction
 2. Muscle Fiber, Myofibrils, Sarcomeres, Myofilaments
 - B. Physiological Consideration
 1. Roles of the Nerve Impulse, Actin, Myosin, Troponin and Calcium
 2. Mechanics of Contraction and Relaxation of the Sarcomeres
 - C. Special Considerations
 1. Alpha and Beta Adrenergic Receptors in the involuntary muscles

2. Adrenergic Blocking Agents
3. Vasculature and Vasodilators
4. Cholinergic and Anticholinergic Effects on Smooth Muscle
4. Skeletal Muscles
 - A. Fascia and Tendons
 - B. Classes of Skeletal Muscles
 - C. Locations and Action
 - D. Insertions and Origins
5. Disorders of the Muscular System
 - A. Muscular Dystrophy and Atrophy
 - B. Myasthenia Gravis
 - C. Myocarditis
 - D. Myositis and Fibrositis
 - E. Myospastic Disorders

VI. NERVOUS SYSTEM

1. General Functions (coordinations, sensory reception, neurosecretion, Impulse (transmission)
2. Conductive and Non-Conductive Cells
 - A. Neurons
 - B. Neuroglia
3. Synapse and Reflex Arc
4. Nerve Impulse, Neurotransmission and Associated Electrophysiological Changes
5. Central Nervous System
 - A. Brain: Gross Structure and Function
 - B. Spinal Cord: Gross Structure and Function
6. Somatic Nervous System
 - A. Cranial Nerves: Distribution and Functions
 - B. Spinal Nerves: Distribution and Functions
7. Autonomic Nervous System
 - A. Neurotransmitters: Synthesis, Storage and Release
 - B. Sympathetic Pathways
 - C. Parasympathetic Pathways
8. Disorders of the Nervous System
 - A. Neoplastic Disorders
 - B. Degenerative Disorders
 - C. Lesions in Motor Neurons
 - D. Lesions in Sensory Neurons

VII. SENSORY SYSTEM

1. Special Senses
 - A. The Eye
 1. Structure and Function of the Eye
 2. Visual Disorders
 - B. The Ear
 1. Structure and Function of the Ear
 2. Vestibular Disorders
 3. Acoustic Disorders
2. Other Sensory Receptors
 - A. Sensory Cells and Nerve Endings

- B. Sensations and their Detection (touch, taste, smell, stretch, pain, pressure, heat and cold, hunger and thirst)
- C. Nausea and Emesis

Laboratory:

Laboratory activities will parallel the units of study listed, with primary focus on the organ systems listed under units of study.

Assessment, Evaluation and Grading System

Test Policies:

One letter grade will be given for the lecture and laboratory. The lecture grade will be based on six (6) one-hour unit tests. The laboratory grade is based on four (4) practical exams corresponding to the lecture material. Dishonesty in any form will not be tolerated. This is a major penalty printed in the student handbook. Students are expected to be aware and abide by the University Honor Code. Students caught cheating on exams or other assignments will be given a letter grade of zero. Once a student has turned in their examination no other student entering the room after the 1st exam is turned in may not take the examination on that date. Students may take the make up exam given on the day of the final. Makeup examinations will be given only at the end of the semester. The examination will be given at the same time as the scheduled final examination. There will be four (4) essay questions that cover the material of that chapter. There is NO extra credit.

90-100% = A 80-89% = B 70-79% = C 60-69% = D 0-59% = F

College and Classroom Policies, Requirements, Objectives

Supplemental:

The course will be supplemented with lecture notes, visual aids, the course is also Web enhanced to provide supplemental reference material as well as visual animations. Either dry or wet labs are instituted to provide a practical application to the lecture material.

Course Objectives:

Human Anatomy and Physiology 220 Lecture and 221 Laboratory are the first in a series anatomy and physiology courses. The courses are designed to enable students to gain comprehension of normal structure and function as a basis for understanding disease processes in the human subject. Writing and oral communication, critical analysis and reasoning, scientific and quantitative reasoning, technological competency.

Course Requirements:

Attendance:

Regular and prompt attendance is expected. The Biology department feels that regular attendance is directly related to student performance in the classroom and on examinations all students are expected to attend all sessions of classes in which they are enrolled. Thus students who regularly miss class will be at a disadvantage. Students who miss more than three hours of classes will have an Early Alert Referral Form submitted to the Retention Coordinator. Students are allowed only three (3)

unexcused absences during the semester. Students that are tardy or who miss class are responsible to acquire all information and mater

Electric Devices Policy

Cellular phone, pagers must be on off or vibration mode. Answering cell phone in class is prohibited and the student will be asked to leave class. No CD players, radios or other nose making devices are prohibited. Recording devices are permissible.

Disabilities Policy

Americans with Disabilities Act

Southern University at Shreveport is in compliance with regulation of the Americans with Disabilities Act. Students with documentation of disabilities are entitled to reasonable accommodations. Students who fall under ADA and need assistance or support services will be processed through Student Support/ Counselor center where they have a Counselor Coordinator who will assist them with their services. The instructor will be notified of any accommodations required by the state and federal agencies.

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PAID RECEIPT: A student is required to show the instructor a paid receipt on the first day of class. A student is not officially enrolled in class unless he or she has a stamped paid class schedule. It is the student's responsibility to ensure that all steps of the registration process have been completed before attending class.

WEB-ENHANCED

This is a Web-enhanced class. Because it is Web-enhanced, certain information may be provided through Blackboard. Students may be able to access the Course Syllabus, and Course Information related materials. Study Guides for upcoming examinations, and current grades may also be provided. To view this information, the steps below should be followed:

1. Click the "Blackboard Learning System" Link on the SUSLA home page.
2. Click on User Login.
3. Enter user name, password, and click login.
4. Under "My Courses", click on your Biology 104 course to view the Announcements.
5. View the six (6) Instructional Videos in the Announcements section to learn how to use Blackboard.